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PATENT SPECIFICATION



Application Date: April 11, 1924. No. 9226 / 24.

237,326

Complete Left: Dec. 13, 1924.

Complete Accepted: July 13, 1925.

PROVISIONAL SPECIFICATION.

Improvements in or relating to Pneumatic Conveyors for Cotton or the like.

We, BROOKS & DOXEY (1920) LIMITED, a company registered under the laws of Great Britain, of Union Iron Works, West Gorton, Manchester, in the County of Lancaster, and SAMUEL NEWELL, a subject of the King of Great Britain, of 36, Garden Street, Todmorden, do hereby declare the nature of this invention to be as follows:—

10 The invention relates to improvements in or relating to pneumatic conveyors for cotton or the like and has for its object to provide an improved dust box for such a conveyor whereby the dust and other
15 impurities may be more thoroughly extracted from the cotton and which will be more convenient to clean out when this becomes necessary.

20 Hitherto, in that type of dust-box in which the cotton is passed over division plates or grids said plates or grids are fixed and no means are provided for altering the setting or pitch of the same; moreover said plates or grids cannot be
25 removed when it is necessary to clean out the dust-box.

30 Now according to the present invention the division plates or grids are made removable and are adapted to receive a gentle swinging or oscillating motion due to the passage of air and cotton through the trunk and for this purpose along each

side of the dust-box is furnished a toothed rack fixed in a horizontal position in such manner that the teeth of said
35 rack are uppermost.

The plates or grids are provided at each end preferably at the top thereof with an arm or projection and said plates are placed in the dust-box in such
40 manner that said arms or projections rest in the notches of the toothed racks and are free to swing or oscillate laterally thereon.

45 When the fan is started the passage of air and cotton through the trunk causes the plates or grids to swing gently thereby ensuring that all the dust falling from the cotton passes right through
50 said grids into the bottom of the dust chamber thus preventing said plates or grids from becoming choked.

55 It will be understood that means other than that hereinbefore described may be employed to impart a swinging or oscillating motion to the division plates or grids or for mounting the same and that the details of construction of the device may be further modified without departing from the principle of the invention.
60

Dated this 10th day of April, 1924.

For the Applicants.

BARLOW, GILLET & WHITE,
Chartered Patent Agents.

COMPLETE SPECIFICATION.

Improvements in or relating to Pneumatic Conveyors for Cotton or the like.

65 We, BROOKS AND DOXEY (1920) LIMITED, a company registered under the laws of Great Britain, of Union Iron Works, West Gorton, Manchester, in the County of Lancaster, and SAMUEL
70 NEWELL, a subject of the King of Great Britain, of 36, Garden Street, Todmorden, in the County of York, do

[Price 1/-]

hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described
75 and ascertained in and by the following statement, that is to say:—

The invention relates to improvements in or relating to pneumatic conveyors for cotton or the like and has for its object
80

to provide an improved dust box for such a conveyor of the kind having grids constructed of loose or removable division plates or partitions and capable of swinging to facilitate the removal of dirt or fibre, which will be more efficient and convenient in use than such boxes as hitherto made.

According to the present invention a dust box of the kind referred to is provided with plate supports on which the plates or grids may be adjusted relatively to one another by moving them along the supports the plates being supported in such a manner that they may receive a gentle swinging or oscillating motion due to the passage of air and cotton through the trunk and for this purpose along each side of the dust-box is furnished continuous support in the form of a toothed rack fixed in a horizontal position in such manner that the teeth of said rack are uppermost.

The plates or grids are provided at each end preferably at the top thereof with an arm or projection and said plates are placed in the dust-box in such manner that said arms or projections rest in the notches of the toothed racks and are free to swing or oscillate laterally thereon.

When the fan is started the passage of air and cotton through the trunk causes the plates or grids to swing gently thereby ensuring that all the dust falling from the cotton passes right through said grids into the bottom of the dust chamber thus preventing said plates or grids from becoming choked.

And in order that the said invention may be more clearly understood, and readily carried into effect we will now proceed aided by the accompanying drawings more fully to describe the same with reference to the accompanying drawings wherein,—

Figure 1 is a perspective view of a dust-box constructed in accordance with the present invention, part of the cover being removed in order to disclose the interior.

Figure 2 is a section thereof taken on the line A—B of Figure 3.

Figure 3 is an end elevation thereof, and

Figure 4 is a plan thereof.

Referring to said drawings, 1 represents the framework of the dust-box and 2 the cover thereof, 3 and 4 represent toothed racks fixed horizontally, one upon either side of the interior of the dust-box, and 5 represents the division

plates or grids which are provided at each end at the top thereof with arms or projections 6 and said plates 5 are inserted in the dust-box in such manner that said arms or projections 6 rest in the notches 7 of the toothed racks 3 and 4 by which arrangement the plates or grids are adjustable relatively, upon the toothed racks and are free to swing or oscillate laterally thereon.

During the operation of the fan the passage of air and cotton through the trunk (not shown) causes the plates 5 to swing gently thereby ensuring that all the dust falling from the cotton passes through said plates 5 upon the floor 8 of the dust chamber, thus preventing said plates 5 from becoming choked.

The floor 8 of the dust-box is hinged at 8a and provided with a suitable catch or the like 9 and arranged to be opened outwards in order that dust accumulated thereupon may be removed when desired.

A hand-hole 10 is provided in the cover 2 of the dust-box in order that the plates 5 may be adjusted or cleaned from above. By reason of the number of notches 7 in the racks 3 and 4 the setting or pitch of the plates 5 may be adjusted as desired.

It will be understood that the details of construction of the device may be further modified without departing from the principle of the invention.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. In a pneumatic conveyor for cotton or the like, a dust-box or trunk, toothed racks mounted horizontally within said dust-box, on both sides thereof and on which the plates or grids may be adjusted relatively to one another the plates or grids having suitable arms or projections adapted to swing or oscillate upon said toothed racks by the passage of air through the conveyor and means for facilitating the cleaning of the dust-box substantially as herein set forth.

2 In a pneumatic conveyor for cotton or the like the improved dust-box or trunk constructed arranged and operating substantially as herein described and illustrated in the accompanying drawings.

Dated this 11th day of December, 1924.

For the Applicants.

BARLOW, GILLET, & PERCIVAL,
Chartered Patent Agents.

20/22, St. Ann's Square, Manchester.

FIG. 1.

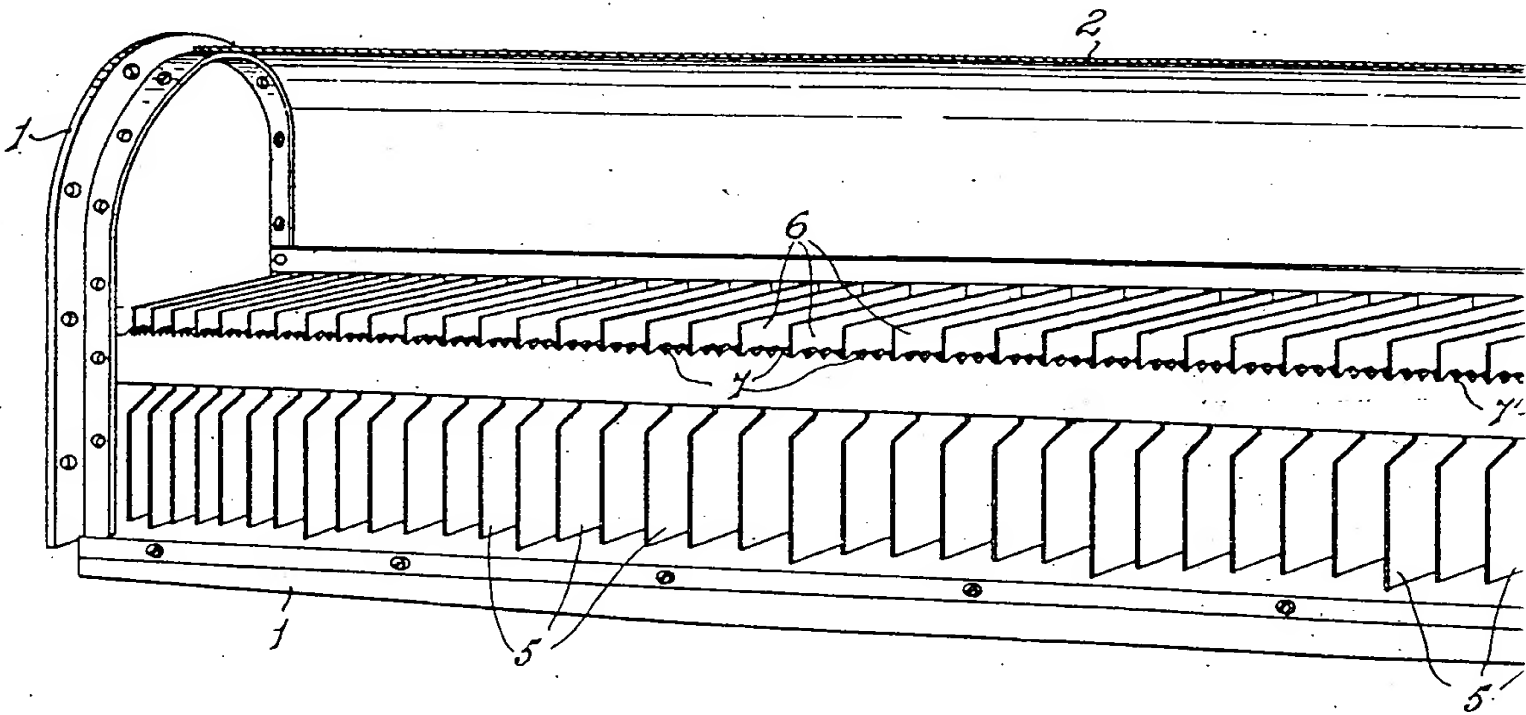


FIG. 1.

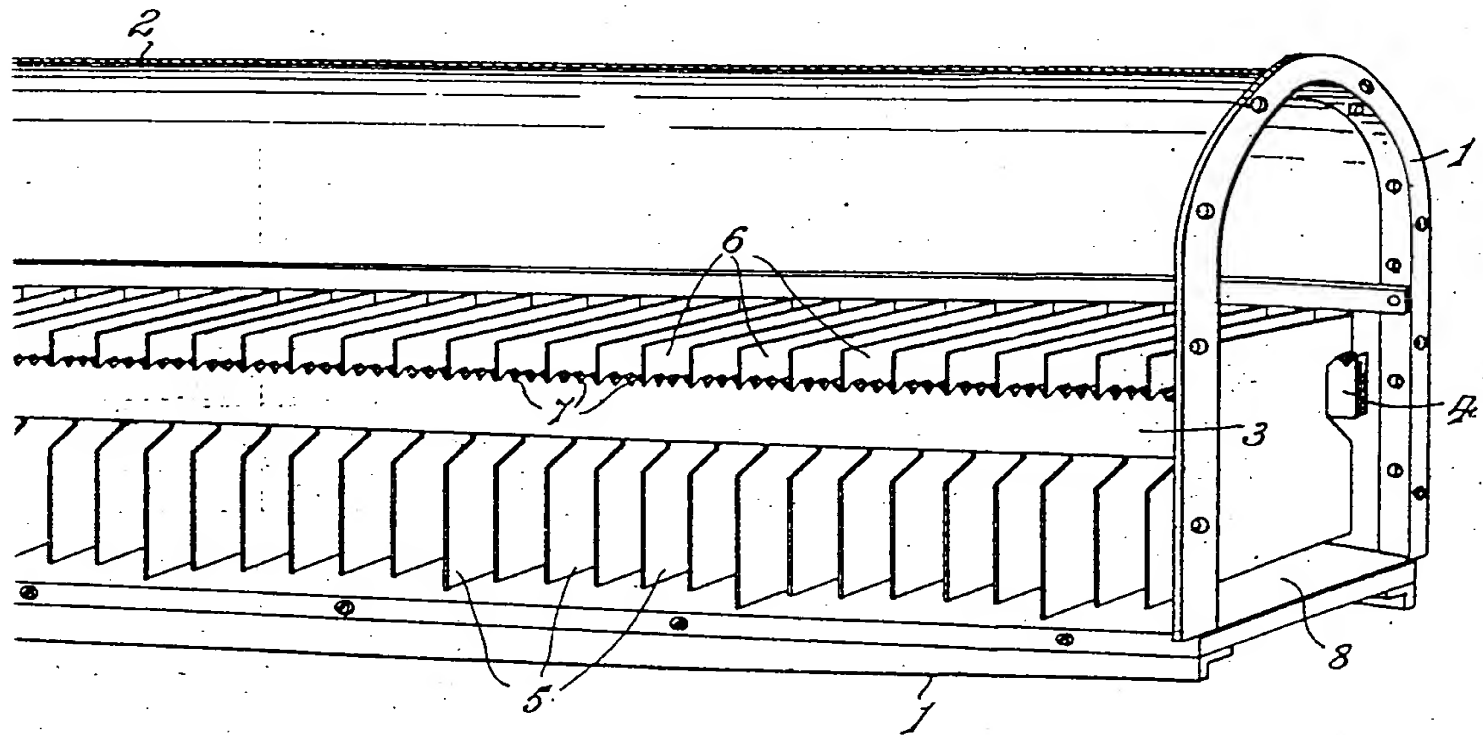


FIG 2

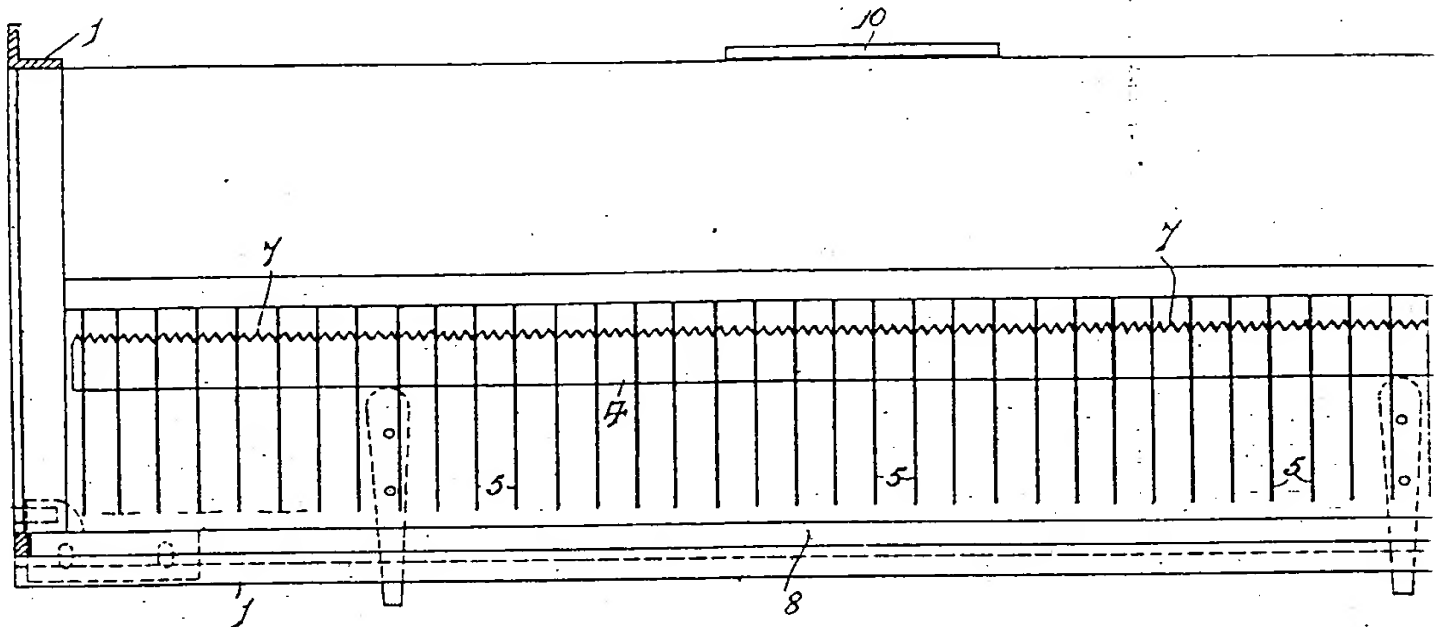
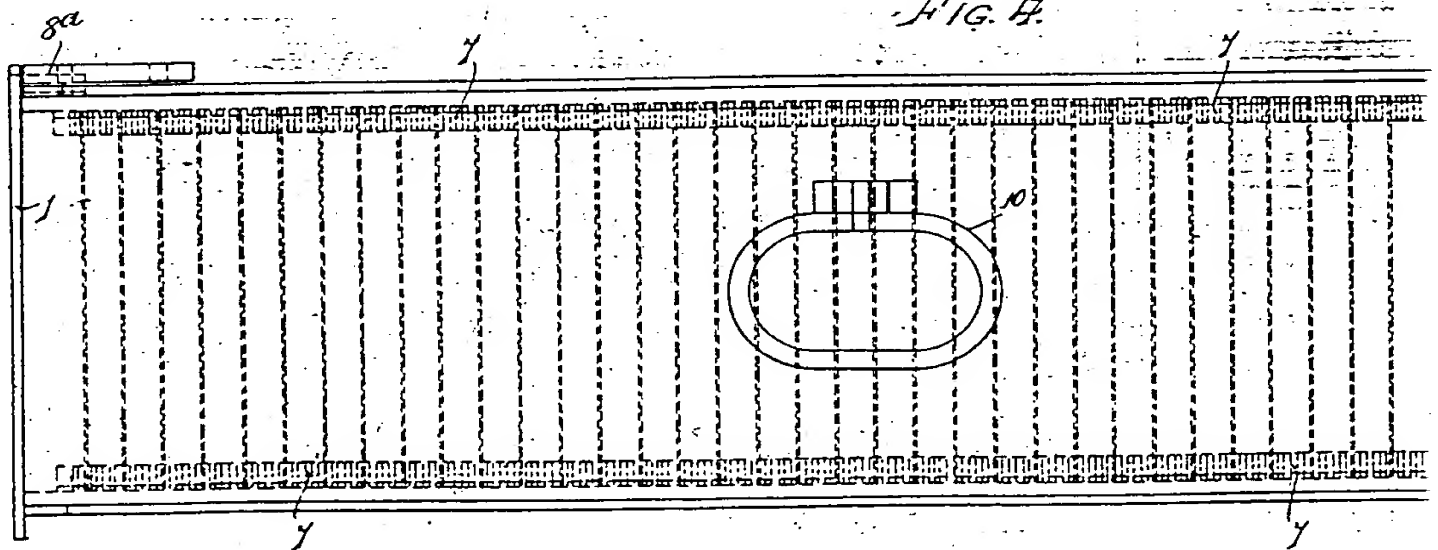


FIG. 4



[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 2

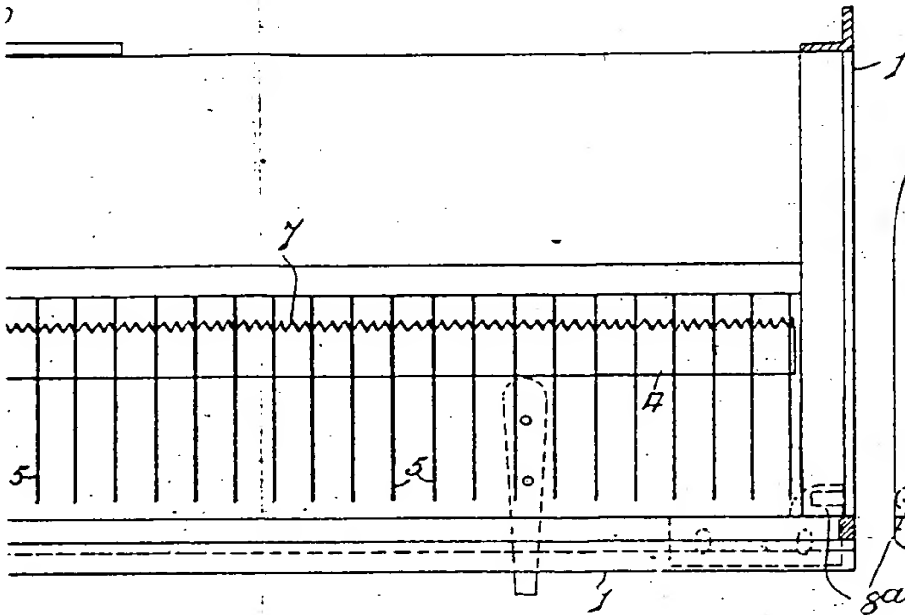


FIG. 3

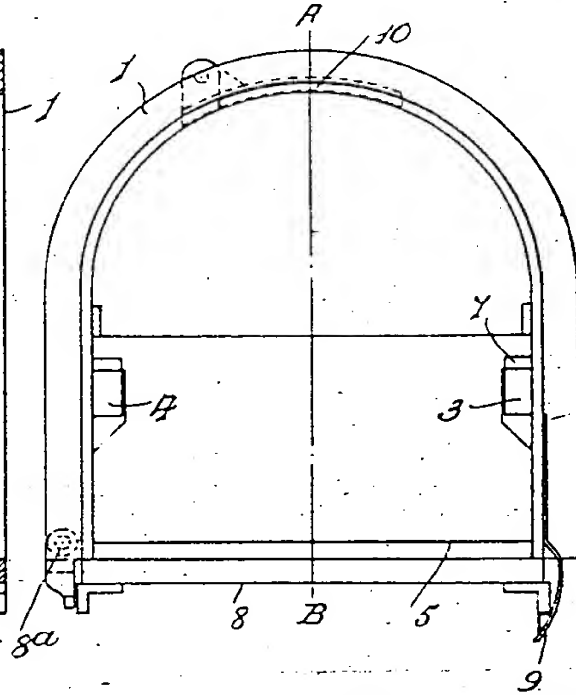


FIG. 4

